

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: AKIHIKO KANOUDA ET AL  
Serial No.: NOT YET ASSIGNED  
Filed: FEBRUARY 27, 2002  
Title: BACKUP POWER SUPPLY

PRELIMINARY AMENDMENT

**Box Non-Fee Amendment**  
Commissioner for Patents  
Washington, D.C. 20231

February 27, 2002

Sir:

Please enter the following amendments to the claims prior to the examination of the application.

IN THE CLAIMS:

Please amend the claims as follows: **(A copy of a marked up version with markings to show changes made is attached hereto.)**

5. (Amended) A backup power supply according to Claims 1, wherein

said backup power supply has detection means for detecting said charging and discharging currents of said secondary battery, means for detecting a voltage of said secondary battery, and a circuit for calculating a residual capacity of said secondary battery and changes said predetermined peak cut current according to said residual capacity of said secondary battery.

8. (Amended) A backup power supply according to Claim 1, wherein

from said residual capacity of said secondary battery and said load current, said backup power supply has a function for calculating and displaying a service interruption holding time at said point of time.

9. (Amended) A backup power supply according to Claim 1, wherein

from said residual capacity of said secondary battery and said load current, said backup power supply calculates said residual capacity of said secondary battery necessary to ensure a predetermined service interruption holding time at said point of time and performs said peak cut operation within a range having said calculated residual capacity.

10. (Amended) A backup power supply according to Claim 1, wherein a voltage at a connection point of said AC-DC converter and said two-way DC-DC converter is higher than a voltage of said secondary battery, and when said two-way DC-DC converter is discharged from a side of said secondary battery, said converter is operated as a booster chopper circuit, and when said secondary battery is charged, said converter is operated as a voltage reduction chopper circuit.

11. (Amended) A backup power supply according to Claim 1, wherein

said backup power supply has n storage means for dividing a preset time period into n parts by a sampling time sufficiently shorter than said period and corresponding to said divisions, means for detecting said load current, and means for calculating a mean value of load currents from said detected load

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current and a last value stored in corresponding storage means, overwriting in said corresponding means, and changing said predetermined peak cut current from said calculated new mean value of load currents.

(Applicant's Remarks are set forth hereinbelow, starting on the following page.)

NOT SET FORTH


REMARKS

Entry of the amendments to the claims before examination of the application is respectfully requested. These claims have been amended to remove multiple dependencies.

If there are any questions regarding this Preliminary Amendment or this application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Account of Crowell & Moring, LLP, Deposit Account No. 05-1323 (Docket #381NP/50933).

Respectfully submitted,

  
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Gary R. Edwards  
Registration No. 31,824

CROWELL & MORING, LLP  
Intellectual Property Group  
P.O. Box 14300  
Washington, DC 20044-4300  
Telephone No.: (202) 624-2500  
Facsimile No.: (202) 628-8844  
GRE:kms  
(CAM: 56207.519)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend the claims as follows:

5. (Amended) A backup power supply according to Claims 1, [or 3,]  
wherein

said backup power supply has detection means for detecting said charging and discharging currents of said secondary battery, means for detecting a voltage of said secondary battery, and a circuit for calculating a residual capacity of said secondary battery and changes said predetermined peak cut current according to said residual capacity of said secondary battery.

8. (Amended) A backup power supply according to [any one of Claims 1 to 3,] Claim 1, wherein

from said residual capacity of said secondary battery and said load current, said backup power supply has a function for calculating and displaying a service interruption holding time at said point of time.

9. (Amended) A backup power supply according to [any one of Claims 1 to 3,] Claim 1, wherein

from said residual capacity of said secondary battery and said load current, said backup power supply calculates said residual capacity of said secondary battery necessary to ensure a predetermined service interruption holding time at said point of time and performs said peak cut operation within a range having said calculated residual capacity.

10. (Amended) A backup power supply according to [any one of Claims 1

to 3,] Claim 1, wherein a voltage at a connection point of said AC-DC converter and said two-way DC-DC converter is higher than a voltage of said secondary battery, and when said two-way DC-DC converter is discharged from a side of said secondary battery, said converter is operated as a booster chopper circuit, and when said secondary battery is charged, said converter is operated as a voltage reduction chopper circuit.

11. (Amended) A backup power supply according to [any one of Claims 1 to 3,] Claim 1, wherein

said backup power supply has n storage means for dividing a preset time period into n parts by a sampling time sufficiently shorter than said period and corresponding to said divisions, means for detecting said load current, and means for calculating a mean value of load currents from said detected load current and a last value stored in corresponding storage means, overwriting in said corresponding means, and changing said predetermined peak cut current from said calculated new mean value of load currents.